

Remarks

Currently pending are claims 1-16.

Claim 17 has been cancelled without prejudice.

In view of the above amendments and following remarks, Applicants respectfully request reconsideration by the Examiner, and advancement of the application to allowance.

35 U.S.C. § 112

The Examiner rejected claims 1, 4 and 7 under 35 U.S.C. § 112, second paragraph as being indefinite.

Applicants have amended claims 1 and 7 to recite the weight ratio of (A), (B) and when present, (C), to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, claim 1 has been amended to recite that the weight ratio of (A):(B) is from 19:1 to 3:1. This weight ratio corresponds to the upper and lower limits of the percentages by weight of (A) and (B) (i.e. 95% by weight of (A) and 5% by weight of (B); and 75% by weight of (A) and 25% by weight of (B)). Similarly, claim 7 has been amended to recite that the weight ratio of (C):((A) + (B)) is from 1:999 (corresponding to 0.1% by weight of (C) and 99.9% by weight of (A)+(B)) to 1:9 (corresponding to 10% by weight of (C) and 90% by weight of (A)+(B)). Applicants respectfully submit that claims 1 and 7 are no longer indefinite and request the rejection be withdrawn.

Applicants have also amended claim 4 to recite "wherein (X) in formula (1) is an acid radical derived from sulfuric or orthophosphoric acid." Support for this amendment

can be found at paragraph [0015] of the published application. Accordingly, Applicants respectfully request this rejection also be withdrawn.

35 U.S.C. § 103

The Examiner rejected claims 1-17 under 35 U.S.C. § 103(a) as being unpatentable over Jollenbeck et al. (US 5,009,669). Applicants traverse this rejection for the following reasons.

As described in the present application, certain dyes and chemicals, such as UV absorbers of the benzotriazole-, benzotriazine- and benzophenone-type, are known to create additional differential pressure when used in static dyeing equipment resulting in faulty or non-uniform dyeing. Applicants have surprisingly found this additional differential pressure can be substantially reduced when at least two certain dispersants are combined at certain weight ratios and used with such UV-absorbers.

Accordingly, the present set of claims is directed to a composition containing two such dispersants: components (A) and (B) as claimed above, the composition being characterized in that the weight ratio of (A):(B) is from 19:1 to 3:1.

In comparison, Jollenbeck et al. teach a dispersion containing (a) a benzotriazole UV absorber and (b) a dispersing agent corresponding to component (A) of claim 1. Jollenbeck et al. also teach the dispersion may optionally contain a condensation product of sulfonated ditolyl ether and formaldehyde. However, Jollenbeck et al. do not teach or suggest any specific amounts of this optional dispersing agent in relation to its dispersing agent (b).

Additionally, Applicants claimed weight ratio is not one that has been optimized within the conditions taught in Jollenbeck et al. by routine experimentation rendering

Applicants claims obvious. It is well established only result-effective variables can be optimized. *See MPEP § 2144.05 B* (“a particular parameter must first be recognized as a result-effective variable, i.e. a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.”). As noted above, Jollenbeck et al. do not teach or suggest combining its dispersing agent (b) with the optional dispersant at any weight ratio, let alone, the claimed weight ratio above. Furthermore, Jollenbeck et al. teach that its optional dispersant, when present in a mixture containing a benzotriazole UV absorber and dispersing agent (b), does nothing more than what dispersants routinely do and that is to keep disperse dyes in “a state of fine division.” *See, U.S. Pat. No. 5,009,669* at col. 9, ll. 39-42.

Nevertheless, Applicants have surprisingly found the differential pressure observed during static dyeing can be substantially reduced when components (A) and (B) are combined at a weight ratio ranging from 19:1 to 3:1 then added to a solution containing a UV absorber. As demonstrated in the present application, when component (A) was not present in a solution containing the UV absorber and component (B), the differential pressure during static dyeing reached 1.4 bar (*see US 20070214582* at paragraph [0076], Example F1). However, when component (A) was combined with component (B) at the claimed weight ratio and then added to a solution containing the UV absorber, the differential pressure only reached 0.32 bar (*see id.* at Example F2). Even more surprising, when a solution containing components (A) and (B) was added to the Example F1 solution containing components (B) and the UV absorber (which had produced a differential pressure of 1.4 bar during static dyeing) the differential pressure


only reached 0.11 bar (*see id.* at Example F4). The Applicants found this both surprising and unexpected and this is neither taught nor suggested in Jollenbeck et al.

To further demonstrate the criticality of the claimed weight ratio of components (A) and (B), Applicants submit the Declaration of Ryu. According to the Declaration, two dispersions, D1 and D2, containing components (A) and (B) at weight ratios of 1:10 (outside the present invention) and 3:1 (according to the present invention) were prepared and tested in relation to maximum differential peaks obtained during static dyeing. The maximum differential pressure peak obtained for the D1 dispersion containing components (A) and (B) at a weight ratio of 1:10 was 1050 hPa. However, when dispersion D2 containing components (A) and (B) at a weight ratio of 3:1 was used, the maximum differential pressure peak obtained was only 840 hPa which was significantly and surprisingly less.

Accordingly, claim 1 and all claims depending on claim 1 are not obvious and Applicants respectfully request these rejections be withdrawn.

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Respectfully Submitted,


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